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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,770	04/26/2000	Martin W. Allen	SP00-118	1532

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Robert L Carlson
Corning Incorporated
SP TI 03 I
Corning, NY 14830

EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 09/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/558,770	Applicant(s) ALLEN ET AL. S.C.	
	Examiner John Hoffmann	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 12-14, 22, 23 and 100-102 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 12-14, 22, 23 and 100-102 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/10/2004 has been entered.

Election/Restrictions

Newly submitted claims 103-104 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The are directed to non-elected specie C3.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 103-104 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Whereas the remarks indicate that claims 103-104 are directed to the elected invention, there is no indication as to why. These claims are substantially the same as claims 7, 98-99 which were previously withdrawn for the same reason. No argument

could be found which addresses why this invention/claims are not directed to non-elected species C3.

Newly amended claim 18 (as well as claims 19-21) is now directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The method of claim 18 results in a multimode fiber. However, the method of making a single mode fiber was previously presented and examined in claim 3. These two types of fibers are deemed to be mutually exclusive species. Whereas prior claims were directed to methods which included glass objects which had an *intended use* relating to multimode fibers – there was no claim which recited the creation of a multimode fiber. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 18-21 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6, 12-14 and 22-23 and 100-102 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 5, there is no antecedent basis for “the center of the hole” or for “the hole positioned along the centerline” or for “the centerline”.

Claim 1 has no explicit step of making a fiber – although the preamble indicates that a fiber is made. Various dependent claims indicate that a fiber is drawn. It is unclear whether claim 1 actually requires the making of the fiber, or if such is not required until the step is actually mentioned in the claim. Furthermore, if the claim 1 preamble does not breathe life and meaning into the claim – it makes it confusing as to whether the preambles of the other claims also do not breathe life and meaning into the claims.

Claim 3 refers to having a particular dispersion when the intermediate glass object is used to make a fiber: this limitation is used to further define the step of reducing. It does not explicitly limit the step of drawing the fiber – nor does it explicitly limit the fiber which is drawn. However, it is very possible that it implicitly limits drawing step and/or the fiber drawn. And/or it possible that applicant *intended* such to require

the final fiber has such a polarization. Regardless, one of ordinary skill would not be ascertain what the claim actually requires – and thus places an unreasonable burden on the public. For example, one can use applicant's preform in a poorly designed drawing process, so that it does not have the low dispersion. In other words, there is confusing antecedent basis for the step "to make said single mode optical fiber" line 7, claim 3 : it is unclear if it is in addition to the "for making" of line 3, and/or the implicit making of the fiber of the preamble.

The term "internal wall" is indefinite as to its meaning. Applicant indicates that the tube is a wall. Examiner is not so sure such is true. But if it is a wall, it is unclear as to why it is an internal wall. The description of the invention is lacking to a degree that one would not be able to reasonably tell if a particular tube wall is an internal wall or just a plain, non-internal wall.

Claim 101: There is no and/or confusing antecedent basis for "the centerline". As per claim 1, it is the intermediate glass object which has the centerline. But when the fiber is drawn, the object no longer exists and neither does the centerline.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6, 12-14 and 22-23 and 100-102 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s)

contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support for the glass object having an internal wall (claim 1). The only mention of a wall is the wall (81) of the furnace. (see the above rejection and the response to the arguments below)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3-5 and 100-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi 6076376 alone or in view of Glodis 6105396.

It is noted that there is no order to the claimed steps.

Col. 8, lines 48-55 of Onishi discloses that the preform is made by MCVD or the rod-in-tube method. Each of these methods requires the provision of a glass object having the centerline hole. The hole is removed by heating in both the MCVD and the RIT method: it occurs either prior to or during drawing. The diameter is reduced by at least 1/3 during the drawing (see figure 6).

There is no indication of a pressure in the void. It would have been obvious to perform the MCVD or RIT process at a pressure of at least atmospheric, so that one does not have to bother with a vacuum system. This would be greater than 500 torr.

Glodis is cited as teaching to keep a pressure in an MCVD tube to prevent a change in diameter (col. 5, lines 45-47). It would have been obvious to use a pressure at least equal to atmospheric pressure (in the Onishi MCVD process), to prevent atmospheric pressure from collapsing the tube. One of ordinary skill understands that there has to be a balance of pressures to prevent the tube from shrinking. It is deemed that the collapsing is sufficiently uniform and symmetrical for the Onishi and/or Glodis desired result.

Claim 3: it is deemed that both pressures (i.e. externally and internally) applied are "sufficient" to meet the stated condition. Figure 12 of Onishi clearly shows that that fiber has the low dispersion values for at least some locations. Also, other locations have unspun lengths: the spinning oscillates between positive locations and negative locations. And in-between those two lengths, there are locations where the spin is zero.

Alternatively: the Onishi fiber is always in a spun state - it is never in an "unspun" state. The claim limitations only pertains unspun fibers - there is no dispersion requirement which must be met for spun fibers. In other words, the Office is interpreting the claim to be: "if the fiber is unspun, then...." The claim does not limit spun fibers. The claims does not require the creation of an unspun fiber.

Claims 4-5: Onishi figure 12 show dispersions less than the 0.05 value.

Claim 100 is clearly met with atmospheric pressure.

Claims 101-102: It is deemed that preventing a change in diameter will result in very small change in dimension. It would have been obvious to make keep the change as small as possible

Claims 1,2, 6, 22 –23 and 100-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer REISSUE 28,028.

Figure 1 shows the intermediate glass object with a hole. The heating and reducing are clearly represented. It is deemed that the reducing is done uniformly and symmetrically to the degree that is sufficient for the Maurer purpose. Also, see col. 3, lines 30-32 and col. 6, lines 13-15. Alternatively, it would have been obvious to do the drawing as uniformly and as symmetrically as possible because variations in the core diameter might significantly effect the transmission characteristics as Maurer teaches.

There is no indication of a pressure in the void. There is no indication the process has the bore exposed to atmospheric pressure. It would have been obvious to perform the process at a pressure of at least atmospheric, so that one does not have to bother with a vacuum system.

Claim 2 is clearly met.

Claim 6: First it is noted that from instant figure 5, plug 66, appears not to be a separate piece that is inserted into the tube, rather it appears to be a heat-sealed section of the inner glass tube. Examiner notes this as an indication that Applicant does not use the term "plug" in any narrow sense. Maurer does not teach any plugging, however, col. 4, lines 71-72 and col. 7, lines 34-37 disclose using pure materials. IT

would have been obvious to plug or cap the tube so as to prevent any material from getting into the tube – whenever the tube is not being worked on. It is deemed that any capping, plugging, etc. to keep out contaminants reads on the instant claims.

Claim 22: see figure 3: it would have been obvious to maintain the circular symmetry shown in figure 3, because there is no reason to change it, and because Maurer teaches variations are undesirable

Claim 23: it would have been obvious to have the fibers as symmetrical as possible, because variations are undesirable.

Claim 100 is clearly met with atmospheric pressure.

Claims 101-102: It is deemed that preventing a change in diameter will result in very small change in dimension. It would have been obvious to make keep the change as small as possible. Furthermore, as per col. 7, lines 14-16, there is no layer between 0.08 and 0.15 microns. It is just a solid core within that range. The claim is only directed to the invention that has a layer there and does not limit a method which lacks a layer there.

Claims 1-2 and 6 and 100-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 5152818.

Figures 9-10 and 14 of Berkey show the invention. Figure 10: each of feature 80 corresponds to a hole. Every cylindrical hole has a centerline: therefore each cylindrical hole has a centerline. A centerline (by Examiner's dictionary) is " a real or imaginary line that is equidistant from the surface or sides of something. " Figure 4 represent the heating to reduce the outside diameter. It would have been obvious to have the holes close uniformly and symmetrically along the centerline axis, so that the fiber will have the same cross section at every location along its length. It is noted the claims do not limit what sort of symmetry must exist - and if it is uniform with respect to time, length, diameter or what.

Berkey does not actually mention the pressure. From col. 7, lines 61-65: it is clear that no vacuum is necessary. It would have been obvious to use atmospheric pressure or higher because that is the only other choice when one does not have a vacuum. The claim does not limit when there must be the pressure.

Claim 2: it would have been obvious to have the hole completely closed because figure 10 shows no opening, and there in no reason to have an opening in the final fiber.

Claim 6: figure 14 shows that each centerline hole is plugged with 70: see col. 8, line 49.

Claim 100 is clearly met with atmospheric pressure.

Claims 101-102: It is deemed that preventing a change in diameter will result in very small change in dimension. It would have been obvious to make keep the change as small as possible. Furthermore, as per col. 13, lines 56-57, there is no layer between 0.08 and 0.15 microns. It is just a solid core within that range. The claim is

only directed to the invention that has a layer there and does not limit a method which lacks a layer there.

Claims 1-2, 12-14, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey 5917109.

Berkey clearly has a step of providing the glass object, the heating to reduce the diameter and closing of the hole. Berkey does not disclose the claimed pressure, but discloses use of a gas in the bore. It would have been obvious to use pressures near atmospheric pressure, because no pressure is indicated and because such would not require any extra high or low pressure apparatuses or techniques. See above for as how the claim limitations are interpreted.

AS to claim 2, it would have been obvious to have the bore close completely, because any openings may interfere with the optical signal and/or strength of the fiber.

Claims 12-13: see col, 4, line 46 to col. 5, line 32.

Claims 14 are met as per col. 5, lines 51-52.

Claim 22: see figure 6: it would have been obvious to maintain the circular symmetry shown in figure 6, because there is no reason to change it, and because if it changes, it would not result in the profile of figures 7 or 8.

Claim 23: it would have been obvious to have the fibers as symmetrical as possible, so that the fibers possess the desired profile of figure 7 or 8 at every position.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

It is argued that there is inherent basis for "the center of the hole", "the hole positioned along the centerline", etc. Whereas for regular cylindrical holes and cylindrical bodies (such as with Applicant's disclosed embodiments) there probably is antecedent basis. However, the claims are not limited to Applicant's disclosed bodies and holes. If a hole/body is not cylindrical and if it is not regular, it may be such that it does not have a centerline. Especially, for "the hole positioned along the centerline" – it is quite easy for a hole to be not along a centerline: a hole can be perpendicular to a centerline.

As to the object that has an internal wall: It is argued that in figure 5 and 5A, one can see a wall that forms centerline hole 60. This may be true, but this does not address the concern that there is no "internal" wall.

As to the Onishi/Glodis rejection it is argued that prior methods use vacuum. This is not very relevant because the prior art also uses methods that do not use vacuum. (see rejection).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.

1986). The fact that Onishi doesn't teach atmospheric pressure is not very relevant because Onishi is not applied individually. The fact that Onishi doesn't provide the motivation to combine the references is not relevant: Glodis supplies the motivation.

It is also argued that Maurer does not teach to use atmospheric pressure. This is not persuasive because the rejection is based on the rationale that it would have been obvious to not use a vacuum system because it is not needed. Since Applicant does not disagree with this, it is deemed that Applicant agrees that it is obvious to not include what is not needed. Omission of an Element and Its Function Is Obvious If the Function of the Element Is Not Desired. *Ex parte Wu*, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989) *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

It is further argued that Maurer does not teach using a plug or cap. The rejection is based on obvious – not anticipation. The rejection does not suggest that Maurer teaches such. It is well known to use a plug or cap or lid to keep stuff out of things.

It is argued that Maurer refers to core diameter – not to core symmetry. It is impossible to maintain a core diameter without also maintaining core symmetry. If a core is no longer symmetrical, it no longer has a "diameter". If a core gets squished to an oval, one no longer has the diameter in all directions. In one direction the dimension becomes larger than the diameter – in a perpendicular direction, the dimension will be less than desired. The same analysis can be applied to any other asymmetry. As soon as asymmetry occurs, the diameter is no longer maintained.

It is also argued that Berkey shows a hole that is located off of the centerline. The relevance of this is not understood. The claims do not require that the hole be "on" – nor is there any limitation which precludes it from being "off" of the centerline. The hole of Berkey runs parallel to the centerline – thus it runs "along" the centerline.

It is still further argued that it would not have been obvious to have the Berkey hole close uniformly, because applicant's discovered that holes can close non-uniformly and still achieve the same cross-sectional dimension at every location along its length. The relevance of this is not understood. Whereas the rejection is based on having the same "cross section" – the rejection is not based on having a "cross-sectional dimension". Having a particular dimension constant by itself is hardly an important property.

As to the "surprising" result. It is unclear if this is meant to indicate a new and unexpected result. The PTO will consider any evidence of a new and unexpected result.

Regarding claim 23 it is argued that Berkey '109 does not teach the symmetry of less than .025. It would have been obvious to get the collapse to be as symmetrical as possible. If applicant is of the position that one of ordinary skill could not meet the 0.025 limitation, then evidence needs to be supplied. Such evidence can and will be used in a non-enablement rejection against applicant's claims.

It is argued that it is very common to make fibers that aren't as symmetrical as possible. The relevance of this is not understood. It still would have been obvious for the reasons given. The prior art teaches a particular design. It would have been

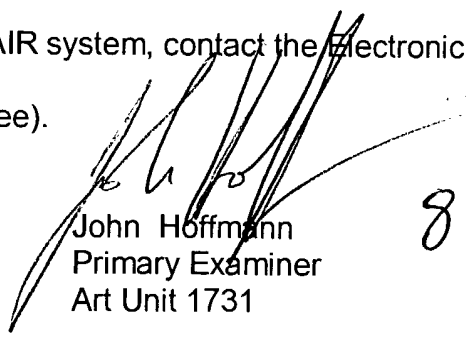
obvious to make it as close as possible to that design. The fact that some people make fibers sloppily and still get a usable product is largely irrelevant as to whether it is obvious to make a fiber as designed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Hoffmann
Primary Examiner
Art Unit 1731

8-30-04